EXHIBIT 3

BROOKLYN QUEENS AQUIFER STUDY
STATION 6 RESTORATION PROJECT
IMPACT OF TWO CONTAMINATION SITES
ISSUES PAPER
May 2000

Introduction

A part of the Brooklyn Queens Aquifer study, the conceptual, preliminary and final design for rehabilitation of the Station 6 wells and treatment plant, located in Jamaica, Queens are being prepared. The purpose of this activity is to restore the wells to useful service, while demonstrating that the NYCDEP BWSO can produce a consistent supply of good quality water from the groundwater system, and at the same time lower water levels to control groundwater flooding problems in the immediate area surrounding Station 6.

Background

Two NYSDEC contamination sites are located in close proximity to Station 6. As shown on Figure 1, the Jamaica Bus Depot is located about two blocks north of Well 6-D, and the Westside Corporation site is located about 3500 feet, or about 12 blocks to the northeast of Station 6.

The Jamaica Bus Depot is owned by the NYC Transit Authority. The NYCTA reports that approximately 70,000 gallons of diesel fuel were spilled/released from underground storage tanks at the site. The NYCTA site investigation to date indicates that the plume of free product (diesel fuel) has not migrated very far off site, certainly not past 107 Avenue (Well 6-D is located on 108 Avenue).

The Westside Corporation property is a NYSDEC Class 2 Inactive Hazardous Waste site. The original owners have either abandoned the site or will not take action toward cleaning it up. The NYSDEC is taking the lead for investigating and remediating the site. The site was used for the bulk storage of perchloroethylene (PCE), and distribution of PCE to local dry cleaners. Major spillage occurred over the years, resulting in three "hot spot" areas of soil contamination, as well as significant dissolved concentrations and free product PCE in the groundwater. The Station 24 supply wells, located on the adjacent property, were shut down due to the PCE contamination. Contamination has migrated off-site, but the extent has not yet been investigated by the NYSDEC.

The Jamaica Bus Depot has an active groundwater pumping system in place and is recovering as much of the diesel fuel product as they can. The NYSDEC plans to use a groundwater recovery system (in addition to chemical destruction and Soil Vapor Extraction) at the Westside site to contain the plume of contaminated groundwater in an attempt to prevent further off-site migration of the PCE plume.

In addition to diesel fuel, the NYCTA reports the detection of MTBE in monitoring wells around the bus depot, which is attributed to a nearby (upgradient) gasoline station with leaking USTs.

These contamination sites were identified in the recent BQA report. The need to treat the groundwater for VOCs (including MTBE) was anticipated in the conceptual design. However, the NYSDEC just issued the RI/FS reports and Proposed Remedy for the West Side site this past February, and the Transit Authority has recently and is continuing to update its cleanup activity plans. The recent remediation plans and activities at both of these contamination sites needs to be coordinated with the planned rehabilitation of Station 6.

Key Issues:

1) Drawdown

When we start pumping the planned 7 MGD at Station 6 for the demonstration study, water levels will be drawn down to alleviate flooding problems in the area. However, water levels will also be drawn down at the bus depot, and our pumping will influence movement of the plume from West Side.

The NYCTA believes that it will have reached its remediation goals in 3 to 5 years. If it can, the timing would be favorable, since we will probably be ready with the treatment plant at Station 6 in about that same time frame. However, if the NYCTA does not meet the cleanup goals, and we start pumping in earnest, we will clearly overshadow the bus depot pumping system (see Figures 2 and 4).

The NYSDEC thinks that it will only need to pump 50 gpm to contain the plume of contaminated groundwater at West Side. This is unrealistic considering the aquifer characteristics in the area. When we pump 7 MGD, the edge of our cone of depression will reach the West Side site, and induce movement of the plume toward the Station 6 wells (see Figure 4).

We have planned for treatment of VOCs and MTBE at Station 6. We may also need to include treatment for potential free product diesel fuel in the event that the bus depot plume reaches Station 6 before the TA can finish its remediation.

The NYSDEC does not seem to have considered protection of the groundwater supply in the remedial action evaluation. The NYSDEC is apparently unaware of our plans to reactivate the wells, and have not considered these impacts.

The NYSDEC also does not seem to have considered the impact from the contamination sites on sensitive receptors, particularly the Junior High School which has installed a basement drainage system to help alleviate its groundwater flooding problems. Pumping at the school has probably already influenced movement of the contaminant plume.

2) Permitting

The NYSDEC (as well as the NYSDOH) has a role in the Water Supply Permitting, and will be involved in the approval of our reactivation of the wells. The NYSDEC will want to see an evaluation of our impacts on their contamination sites. We need to remind the NYSDEC that the groundwater system is a resource of the City that has already been impacted by these contamination sites, and that we have an interest in the remediation since we plan to use the groundwater resource in the near future.

3) Perception

Public perception is also important. At the last NYCTA meeting at Queensboro Hall, Mrs. Schulman clearly stated that "she would never let us run any of those Jamaica wells again". She thinks there must be some other way to control water levels besides pumping. We need to consider this aspect of the rehabilitation project.

It will be important to reinforce the fact that the Groundwater System is a resource of the City, and was in place prior to the contamination sites being discovered (not vice versa). Pumping at Station 24 had to be stopped due the contamination of the aquifer by the Westside Corp, and pumping at Station 6 was curtailed for the same reason.

The contamination issues are not unique to Station 6. We will be encountering contamination at other sites in Queens and Brooklyn, and have anticipated providing treatment to assure water quality. However, the way the NYSDEC, the public, and we deal with the contamination issues at Station 6 could very well set the precedent for other parts of the system.

While we can handle most any contaminants with treatment, and assure that the finished water meets all applicable regulations, we will need to address the public perception issues.

Opportunities

There are several options for alternative approaches to the remediation at West Side, where renewed pumping at Station 24 would be much more effective at containing (and removing) the plume of PCE contaminated groundwater (see Figure 8), which could then be treated at Station 6. We need to consider all of the implications of this (legal and technical), and should discuss this in more detail with the NYSDEC.

Following a coordinated approach could provide the opportunity for financial participation by other parties in the planned NYCDEP activities. In return for assisting the NYSDEC with their cleanup activities, the DEP could receive financial assistance directly from the NYSDEC, from the State Spill Fund, or from the Responsible Parties.

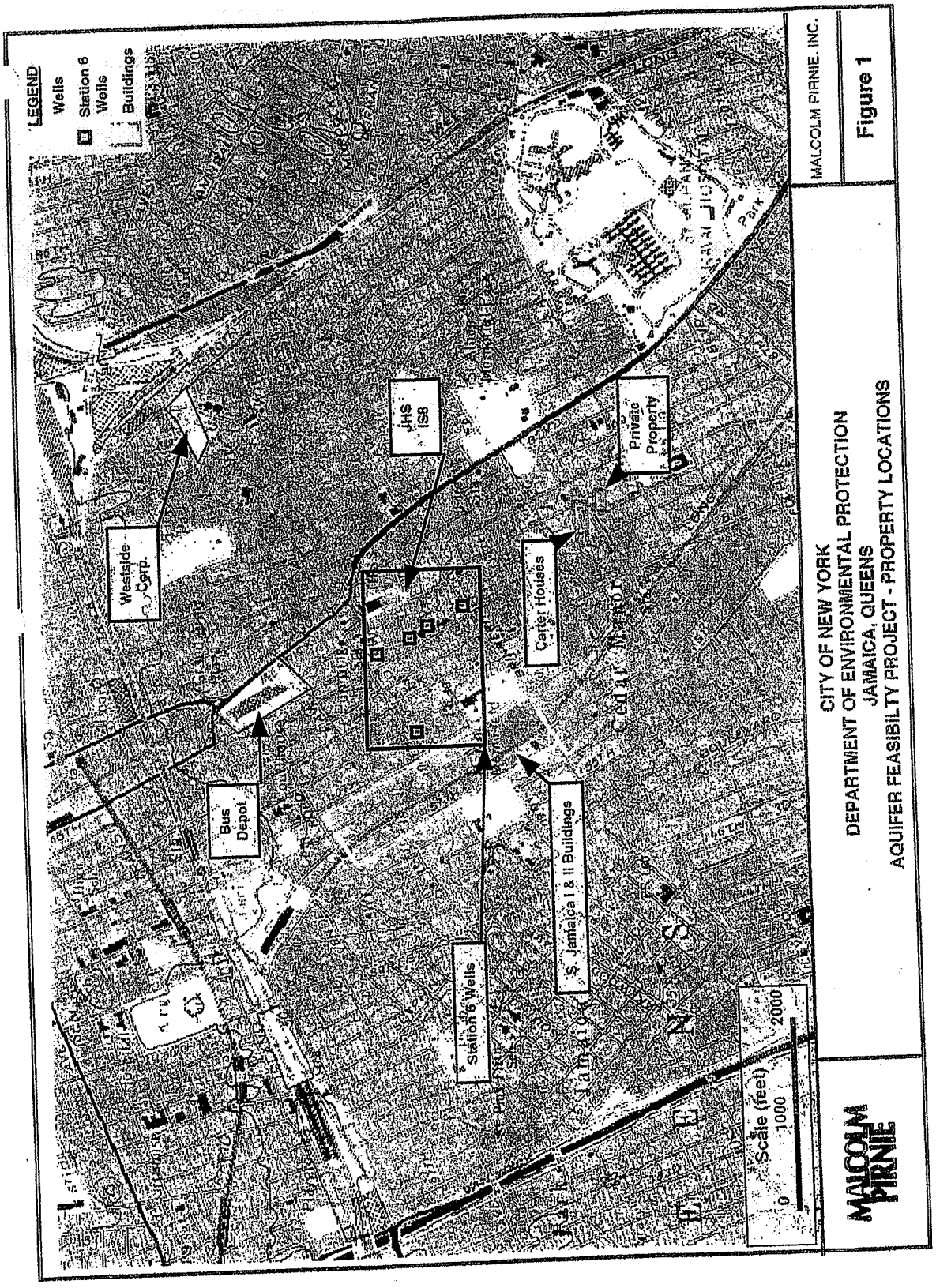
The NYCDEP may also have the opportunity for land acquisition around Station 24. The DEP could possibly acquire the West Side property as part of the coordinated approach to using Station 24 wells to control movement of the West Side plume and cleanup of the site. The expanded property would be much larger, and would facilitate the design of the planned regional water treatment facility at Station 24.

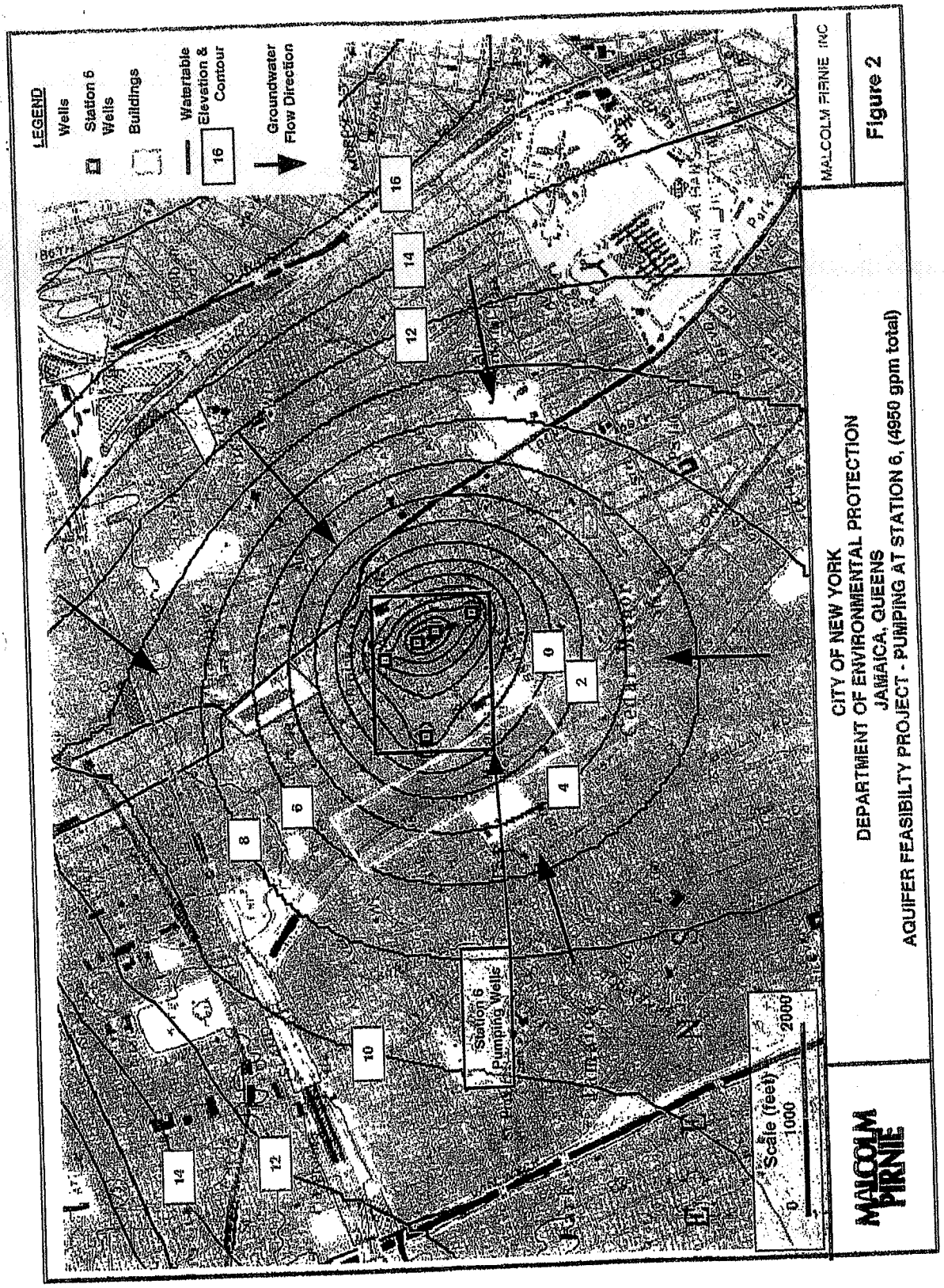
Potential NYCDEP Actions / Next Steps

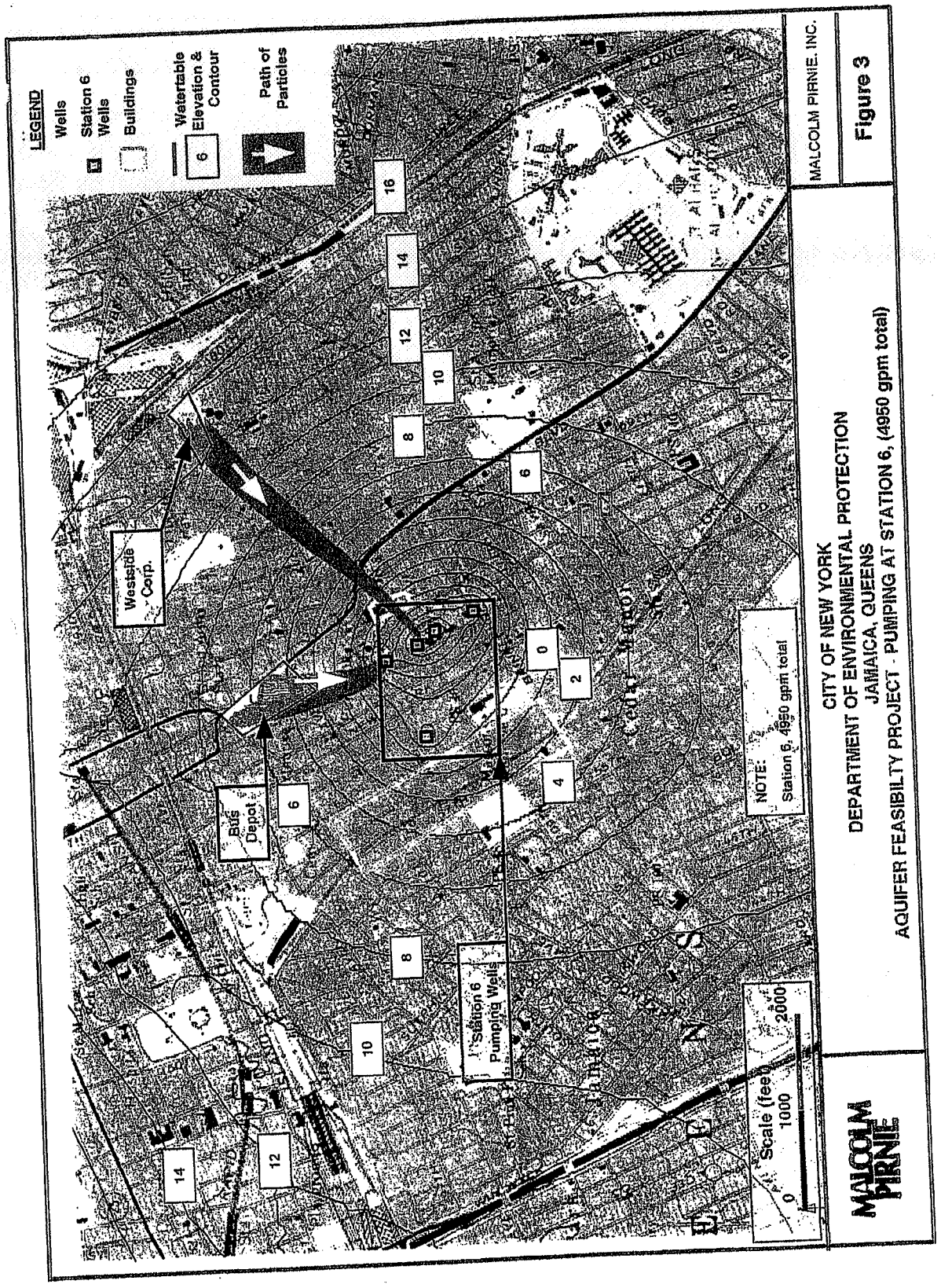
Monitor Activities - of the NYSDEC and NYCTA, attend meetings/presentations as appropriate, and consider joint participation if there are financial and legal benefits to the DEP.

Continue Meetings - particularly internal strategy meetings, coordination meetings with the NYSDEC and NYCTA, and the Queensboro Presidents Office.

We are moving ahead with development of the Overall Groundwater Management Plan and Station 6 rehabilitation and design projects. However, we should discuss these issues in more detail, so that we can follow a consistent strategy toward completion of the tasks.


LEGEND
Wells
Station 6 Wells
Buildings
Westside Corp.
Bus Depot
JHS 8B
Carter Houses
Private Property
Station 6 Wells
S. Jamaica I & II Buildings
Scale (feet)
0
1000
2000
MALCOLM PIRNIE
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
JAMAICA, QUEENS
AQUIFER FEASIBILTY PROJECT - PROPERTY LOCATIONS
MALCOLM PIRNIE, INC.
Figure 1


LEGEND
Wells
Station 6 Wells
Buildings
Watertable Elevation & Contour
16
Groundwater Flow Direction
Station 6 Pumping Wells
Scale (feet)
0
1000
2000
MALCOLM PIRNIE
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
JAMAICA, QUEENS
AQUIFER FEASIBILTY PROJECT - PUMPING AT STATION 6, (4950 gpm total)
MALCOLM PIRNIE INC
Figure 2


LEGEND
Wells
Station 6 Wells
Buildings
Watertable Elevation & Contour
Path of Particles
Westside Corp.
Bus Depot
Station 6 Pumping Wells
NOTE: Station 6, 4950 gpm total
Scale (feet)
0
1000
2000
MALCOLM PIRNIE
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
JAMAICA, QUEENS
AQUIFER FEASIBILTY PROJECT - PUMPING AT STATION 6, (4950 gpm total)
MALCOLM PIRNIE, INC.
Figure 3